

REMARKS

The applicant respectfully requests reconsideration in view of the amendments and the following remarks. The applicant has amended claims 1 and 25 and changed the term "obtainable" to "obtained". In addition, the applicant has added the treatment of the membrane in step D) by hydrolysis (see page 28, lines 1-5 of the specification). Support for process no. 2 in claims 1 and 15 can be found in the specification at page 25, fourth paragraph and in the original claim 1. The applicant has changed the dependency of claim 26 as suggested by the Examiner. Support for newly added claim 32 can be found in claims 1 and 13-18 and page 25, fourth paragraph of the specification. Support for newly added claims 33 and 34 can be found in the specification at the bottom of page 27 to the top of page 28 and page 31, lines 32-38. No new matter has been added.

The application contains three independent claims (claims 1, 25 and 32). The applicant has added three claims. The applicant authorize the USPTO to charge our Deposit Account No. 03-2775, under Order No. 15588-00009-US from which the undersigned is authorized to draw for the three extra total claims added.

Response to Interview Summary

The applicant thanks the Examiner for conducting the telephonic interview on March 17, 2009. The applicant telephoned the Examiner regarding the initialed IDS' missing since they are not sent with the non-final action filed on March 4, 2009. After a close check, Examiner noted that a total of three IDS has been initialized and were sent with restriction letter filed on November 20, 2008.

The applicant also thanks the Examiner for conducting a second interview on April 23, 2009. The Examiner suggested that the applicant further limits polymer B. He suggested that the applicant at least include a feature from some from dependent claims 12-18 or a different feature. The applicant stated that they would consider doing this. The applicant has added new independent claim 32 which has complied with the Examiner's suggestion. The applicant suggested that they would amend step D by adding hydrolysis (which the applicant has done). The Examiner suggested that the applicant should in addition to adding hydrolysis so as to become a low molecular weight and consider adding some of the advantages at page 27, line 30 –page 28, line 34. Dependent claims 33 and 34 have added some of these features.

Claims 1 and 26 were objected to. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 2004/0062969 (Sakaguchi et. al.) in view of U.S. Patent No. 6,869,980 (Cui et. al.). Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cui in view of U.S. Patent No. 6,335,419 (Matsuoka et. al.) and U.S. Patent No. 7,235,320 (Calundann et. al.). The applicant respectfully traverses these rejections.

Objections to Claims 1 and 26

Claims 1 and 26 were objected to. The applicant has amended these claims and believes that these claims as amended overcome the objection. For the above reasons, this objection should be withdrawn.

Rejection Over Sakaguchi in view of Cui

Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi in view of Cui.

As the Examiner has correctly recognized Sakaguchi does not disclose nor teach using the second polymer B with the polyazole polymer A. The applicant believes that Sakaguchi also does not teach the applicant's claimed hydrolysis step.

It is noted that a word search of "hydrolysis" in Sakaguchi reveals that the word "hydrolysis" is mentioned only in two locations (in paragraph nos. [0019] and [0178]). It is stated in these paragraphs

[0019] In addition, a phosphorus-containing polyamide copolymer such as 3,5-dicarboxyphenylphosphonic acid has been reported (Japanese Patent Laying-Open No. 11-286545), while only properties related to heat resistance have been investigated also in this polymer. Further, this **polymer causes hydrolysis under an acidic condition used as a fuel cell**, and cannot be used as an electrolyte membrane.

[0178] It is repeated that the aforementioned inventive polybenzimidazole compound having sulfonic acid group is excellent in durability, solvent resistance and mechanical properties. For example, **the molecular weight reduction by hydrolysis in hot water is small**, swelling in an acidic aqueous solution is also small, and there is no apprehension of breaking even if the membrane is thin. (emphasis added)

Sakaguchi does not disclose the applicant's claimed step D) "treatment of the membrane formed in step C) with hydrolysis until it is self-supporting" (see the applicant's independent claim 1), or the applicant's claimed step D) "treatment of the membrane formed in step C) with hydrolysis" (see the applicant's independent claim 25). The hydrolysis step helps form low molecular weight polyphosphoric acid and/phosphoric and thus contributes to strengthening of

the membrane (see page 27, last paragraph of the specification). In addition, the hydrolysis in step D) leads to strengthening of the membrane and to a decrease in the layer thickness and formation of a membrane (see page 28, first paragraph of the specification). The hydrolysis step also leads to hardening of the coating (see page 31, line 31 of the specification and see claims 33 and 34).

It is noted that a word search of “hydrolysis” in Cui reveals that the word “hydrolysis” is not mentioned at all. Therefore, Cui does not cure the deficiencies of Sakaguchi with respect to the treatment step D).

A statement that modifications of the prior art to meet the claimed invention would have been “obvious to one of ordinary skill in the art at the time the invention was made” because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levingood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). See MPEP § 2143.01 IV. “[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007) quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). Furthermore, the Examiner cannot selectively pick and choose from the disclosed parameters without proper motivation as to a particular selection. The mere fact that a reference may be modified to reflect features of the claimed invention does not make the modification, and hence the claimed invention, obvious unless the prior art suggested the desirability of such modification. *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430 (Fed. Cir. 1990); *In re Fritch*, 23 USPQ2d 1780 (Fed. Cir. 1992). Thus, it is impermissible to simply engage in a hindsight reconstruction of the claimed invention where the reference itself provides no teaching as to why

the applicant's combination would have been obvious. *In re Gorman*, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). For the above reasons, this rejection should be withdrawn.

Rejection of Cui in view of Matsuoka and Calundann

Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cui in view of Matsuoka and Calundann.

The applicant is in the process of submitting an English certified translation of their priority document. The applicant believes that they would be entitled to a filing date of October 4, 2002. Calundann is not prior art. It is noted that Calundann published in German. Calundann would not be entitled to the PCT filing date of February 10, 2002 because the PCT filed in German. The earliest publication date of the family of patents is October 17, 2002 (see enclosed family search). If Calundann is no longer an applicable reference, then this rejection must be withdrawn since one of the references is removed. For the above reasons, this rejection should be withdrawn.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 15588-00009-US from which the undersigned is authorized to draw.

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Respectfully submitted,

Electronic signature: /Ashley I. Pezzner/
Ashley I. Pezzner
Registration No.: 35,646
CONNOLLY BOVE LODGE & HUTZ LLP
1007 North Orange Street
P. O. Box 2207
Wilmington, Delaware 19899-2207
(302) 658-9141
(302) 658-5614 (Fax)
Attorney for Applicant

Family list

9 application(s) for: **US2004127588 (A1)**

**1 PROTON-CONDUCTING
MEMBRANE AND THE USE
THEREOF**

Inventor: CALUNDANN GORDON ; SANSONE MICHAEL J (+2)
EC: B01D71/62; C08G73/06; (+7)

Applicant: CELANESE VENTURES GMBH [DE]
IPC: B01D71/62; C08G73/06; C08G73/18; (+16)

Publication info: BR0208728 (A) — 2004-07-20

in my patents list

**2 PROTON-CONDUCTING
MEMBRANE AND THE USE
THEREOF**

Inventor: UENSAL OEMER [DE] ; SANSONE MICHAEL J [US] (+2)
EC: B01D71/62; C08G73/06; (+7)

Applicant: CELANESE VENTURES GMBH [DE]
IPC: B01D71/62; C08G73/06; C08G73/18; (+16)

Publication info: CA2443849 (A1) — 2002-10-17
CA2443849 (C) — 2008-07-29

in my patents list

**3 Proton-conducting membrane
and use thereof**

Inventor: CALUNDANN G [DE] ; SANSONE M J [DE] (+1)
EC: B01D71/62; C08G73/06; (+7)

Applicant: CELANESE VENTURES GMBH [DE]
IPC: B01D71/62; C08G73/06; C08G73/18; (+16)

Publication info: CN1511170 (A) — 2004-07-07

in my patents list

**4 PROTON-CONDUCTING
MEMBRANE AND THE USE
THEREOF**

Inventor: CALUNDANN GORDON [US] ; SANSONE MICHAEL J [US] (+2)
EC: B01D71/62; C08G73/06; (+7)

Applicant: CELANESE VENTURES GMBH [DE]
IPC: B01D71/62; C08G73/06; C08G73/18; (+13)

Publication info: DE10117687 (A1) — 2002-10-17

in my patents list

**5 PROTON-CONDUCTING
MEMBRANE AND THE USE
THEREOF**

Inventor: CALUNDANN GORDON [US] ; SANSONE MICHAEL J [US] (+2)
EC: B01D71/62; C08G73/06; (+7)

Applicant: CELANESE VENTURES GMBH [DE]
IPC: B01D71/62; C08G73/06; C08G73/18; (+16)

Publication info: EP1379572 (A1) — 2004-01-14

in my patents list

**PROTON-CONDUCTING
MEMBRANE AND THE USE
THEREOF**

Inventor:

EC: B01D71/62; C08G73/06; (+7)

Publication info:

**PROTON-CONDUCTING
MEMBRANE AND THE USE
THEREOF**

Inventor: SANSONE MICHAEL J [US]

EC: B01D71/62; C08G73/06; (+7)

Publication info:

**Proton-conducting membrane
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Inventor: CALUMDANN GORDON [US] ; SANSONE MICHAEL J [US] (+2)

EC: B01D71/62; C08G73/06; (+7)

Publication info:

**PROTON-CONDUCTING
MEMBRANE AND THE USE
THEREOF**

Inventor: CALUNDANN GORDON [US] , SANSONE MICHAEL J [US] (+2)

EC: B01D71/62; C08G73/06; (+7)

Publication info:

in my patents list

Applicant:

IPC: B01D71/62; C08G73/06; C08G73/18; (+14)

JP2005536569 (T) — 2005-12-02

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Applicant: CELANESE VENTURES GMBH [DE]

IPC: B01D71/62; C08G73/06; C08G73/18; (+16)

MXPA03009187 (A) — 2004-02-17

in my patents list

Applicant: CALUMDANN GORDON, ; SANSONE MICHAEL J, (+3)

IPC: B01D71/62; C08G73/06; C08G73/18; (+11)

US2004127588 (A1) — 2004-07-01

US7235320 (B2) — 2007-06-26

in my patents list

Applicant: CELANESE VENTURES GMBH [DE] ; CALUNDANN GORDON [US] (+3)

IPC: B01D71/62; C08G73/06; C08G73/18; (+16)

WO02081547 (A1) — 2002-10-17